

HILTON HEAD
CENTRAL FAX CENTER
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IN THE CLAIMS:

Please amend the claims as follows:

1. (currently amended) An apparatus for treating coal-bed-methane water, the apparatus comprising:

a pump to deliver delivering coal-bed-methane water from at least one coal-bed-methane well into a reservoir;

a generator to produce producing aqueous sulfurous acid to treat the coal-bed-methane water contained in the reservoir; and

an injection system to inject injecting soluble gypsum into at least one of the aqueous sulfurous acid and the coal-bed-methane water to further treat the coal-bed-methane water in the reservoir.

2. (previously presented) The apparatus of claim 1, further comprising a control system to control a water flow rate through the generator to achieve a desired concentration of sulfurous acid.

3. (previously presented) The apparatus of claim 2, wherein the control system comprises a pH sensor to ascertain the pH of the coal-bed-methane water being treated; a controller connected to the pH sensor to receive a signal representative of the pH, comparing the signal to a set point for a desired water pH, and providing an output control signal, to a control means to adjust the water flow rate to achieve a desired concentration of sulfurous acid.

4. (previously presented) The apparatus of claim 3, wherein the control means comprises a variable frequency drive (VFD) to adjust the water flow rate.

5. (previously presented) The apparatus of claim 3, wherein the control means comprises a variable frequency drive (VFD) to adjust the water flow rate through a valve, the valve controlling the water flow rate through the generator.

6. (previously presented) The apparatus of claim 2, wherein the control system comprises a flow rate sensor to measure the water flow rate through the generator; a controller connected to the flow rate sensor to receive a signal representative of the flow rate and to provide an output control signal to a flow control means to adjust the water flow rate through the generator to achieve a desired concentration of sulfurous acid.

7. (previously presented) The apparatus of claim 2, wherein the control system comprises a feed load cell to determine the weight of sulfur fed to the generator.

8. (previously presented) The apparatus of claim 7, further comprising a timer circuit to calculate a feed burn rate based on a change of an output of the feed load cell over time.

9. (previously presented) The apparatus of claim 2, wherein the control system comprises a flow meter to measure the water flow rate.

10. (previously presented) The apparatus of claim 2, wherein the control system comprises a timer to selectively start and stop the generator.

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11. (new) An apparatus for treating coal-bed-methane water, the apparatus comprising:

a pump pumping coal-bed-methane water from at least one coal-bed-methane well into a reservoir;

a generator producing aqueous sulfurous acid to treat the coal-bed-methane water contained in the reservoir;

an injection system injecting soluble gypsum into the coal-bed-methane water to further treat the coal-bed-methane water; and

a control system comprising a control, a pH sensor to ascertain the pH of the coal-bed-methane water being treated, and a controller receiving from the pH sensor a signal representative of the pH, comparing the signal to a set point for a desired water pH, and providing an output control signal to the control acting on the output control signal and adjusting the water flow rate to achieve the desired water pH.

12. (new) The apparatus of claim 11, wherein the control comprises a variable frequency drive (VFD) to adjust the water flow rate.

13. (new) The apparatus of claim 11, wherein the control comprises a variable frequency drive (VFD) to adjust the water flow rate through a valve, the valve controlling the water flow rate through the generator.

14. (new) The apparatus of claim 11, wherein the control system further comprises a feed load cell to determine the weight of sulfur fed to the generator.

15. (new) The apparatus of claim 14, wherein the control system further comprises a timer circuit to calculate a feed burn rate based on a change of an output of the feed load cell over time.